

WHAT IS CLAIMED IS

1. A multiplexing method of transport stream for multiplexing  
encoded data and forming a transport stream, said multiplexing method  
5 comprising the processes of:

generating process of generating time information for said  
transport stream;

controlling process of controlling transfer timing of access units  
so as to conform to said time information, said access units being units  
of access of encoded data; and

multiplexing process of multiplexing said access units and said  
time information, and forming said transport stream.

10 2. The multiplexing method of transport stream according to  
claim 1, wherein said time information contains time reference  
information that provides a time reference of said transport stream and  
reproduction time information that stipulates reproduction time of said  
access units.

15 20 3. The multiplexing method of transport stream according to  
claim 2, wherein said reproduction time information is a PTS  
(Presentation Time Stamp) embedded in a PES header of a PES packet.

25 4. The multiplexing method of transport stream according to  
claim 3, wherein transfer timing of said access units and transfer timing  
of PES headers each having said PTS(Presentation Time Stamp)  
embedded are controlled so as to be able to be switched based on an

enable signal.

5. The multiplexing method of transport stream according to  
claim 2, wherein each of said access units is newly provided with a  
parameter that gives a storage quantity of a virtual input buffer at time of  
reproduction or decoding timing.

10 6. The multiplexing method of transport stream according to  
claim 5, wherein said parameter is set to a fixed value with due regard to  
a transfer time of said access unit having a maximum data quantity.

15 7. The multiplexing method of transport stream according to  
claim 5, wherein said parameter is set to a variable value with due regard  
to transfer time values of said access units.

8. The multiplexing method of transport stream according to  
claim 1, wherein said transport stream is transmitted as packets by  
taking a TS(Transport Stream) packet as unit.

20 9. The multiplexing method of transport stream according to  
claim 8, wherein TS(Transport Stream) packets includes TS packets each  
formed of only time information.

25 10. A multiplexing apparatus of transport stream for multiplexing  
encoded data and forming a transport stream, said multiplexing  
apparatus comprising:

a generating device for generating time information for said

transport stream;

a controlling device for controlling transfer timing of access units so as to conform to said time information, said access units being units of access of encoded data; and

5 a multiplexing device for multiplexing said access units and said time information, and forming said transport stream.

10 11. The multiplexing apparatus of transport stream according to claim 10, wherein said time information contains time reference information that provides a time reference of said transport stream and reproduction time information that stipulates reproduction time of said access units.

15 12. The multiplexing apparatus of transport stream according to claim 11, wherein said reproduction time information is a PTS(Presentation Time Stamp) embedded in a PES header of a PES packet.

20 13. A multiplexing apparatus of transport stream according to claim 12, wherein transfer timing of said access units and transfer timing of PES headers each having said PTS(Presentation time stamp) embedded are controlled so as to be able to be switched based on an enable signal.

25 14. The multiplexing apparatus of transport stream according to claim 11, wherein each of said access units is newly provided with a parameter that gives a storage quantity of a virtual input buffer at time of

reproduction or decoding timing.

15. A storage and reproduction system for conducting storage processing and reproduction processing of a transport stream obtained  
5 by multiplexing encoded data, said storage and reproduction system comprising:

a multiplexing device for multiplexing said encoded data; and

10 a forming device for forming a transport stream by using a multiplexing device comprising:

15 a generating device for generating time information for said transport stream;

a controlling device for controlling transfer timing of access units so as to conform to said time information, said access units being units of access of encoded data; and

15 a multiplexing device for multiplexing said access units and said time information, and forming said transport stream.